AppAssure™ 5.4.2
Releaseinformationen, Revision D
November 2014

Diese Releaseinformationen enthalten Informationen zum AppAssure™-Release, Version 5.4.2. Dieses Release umfasst Build 5.4.2.319.

- Informationen zu AppAssure 5.4.2
- Behobene Probleme
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Informationen zu AppAssure 5.4.2

Die Datenschutzsoftware von Dell AppAssure ermöglicht schnelle Sicherungen mit geprüfter Wiederherstellung für VMs und physische Server, die sich vor Ort oder an einem Remotestandort befinden können. Die Dell AppAssure-Software wurde für IT-Fachleute entwickelt, die eine leistungsfähige, erschwingliche und benutzerfreundliche Lösung für Sicherung, Replikation und Wiederherstellung benötigen, die Schutz für Server und geschäftskritische Anwendungen wie Microsoft Exchange, Microsoft SQL Server und Microsoft SharePoint bietet. Über eine einzige webbasierte Verwaltungskonsole können Sie alle wichtigen Daten und Anwendungen kontinuierlich sichern und schützen.

Hinweise zu früheren Releases

Lesen Sie diesen Abschnitt vollständig durch, bevor Sie entscheiden, wann und wie dieses Release in der jeweiligen Umgebung installiert werden soll.

Probleme mit Auswirkungen auf 5.4-Releases

1   Von Dell wurde ein mögliches Problem in AppAssure, Version 5.4.2.189, festgestellt, das vorübergehend den Zugriff auf einige Wiederherstellungspunkte in Cores verhindern kann, für die bestimmte Last- oder Fehlerbedingungen zutreffen. In extremen Fällen kann dieses Problem zum Verlust einiger Wiederherstellungspunkte führen. Allen Kunden, die Release 5.4.2.189 verwenden, wird geraten, sofort ein Upgrade auf 5.4.2.228 oder höher (5.4.2.230 oder höher für Linux) durchzuführen.

Betroffene Produkte: AppAssure, Version 5.4.2.189, ist die einzige betroffene Version. Das vorherige Release 5.4.1.77 ist nicht betroffen. Alle nachfolgenden 5.4-Releases ab 5.4.2.192 sind ebenfalls nicht betroffen.

Details: In 5.4.2.189 wurde zum Schutz von extremen Fehlern, z. B. Stromausfall oder Komplettausfall des Speichercontrollers, eine Änderung an der Rollup-Logik vorgenommen. Durch diese Änderung entstand versehentlich die Möglichkeit, dass Wiederherstellungspunkte verwaisen, wenn ein bestimmten Agent über einen Wiederherstellungspunkt verfügt, für den a) mindestens ein Volume fehlt oder b) eine Exchange-Bereitstellungsprüfung oder SQL-Anfügbarkeitsprüfung fehlgeschlagen ist. Cores, die bereits

normal arbeiten, d. h. keine unvollständigen Wiederherstellungspunkte oder fehlgeschlagene Wiederherstellungspunktprüfungen aufweisen, sind nicht betroffen.

Es besteht die hohe Wahrscheinlichkeit, dass die verwaisten Wiederherstellungspunkte mit Unterstützung des Kunden-Supports repariert werden können. In einigen Fällen können die verwaisten Wiederherstellungspunkte nicht wiederhergestellt werden. Daher wird allen Kunden dringend geraten, so schnell wie möglich ein Upgrade auf 5.4.2.228 oder höher durchzuführen. Kunden, die nicht sofort in der Lage sind, ein Upgrade durchzuführen, sollten die Rollup-Funktion stattdessen deaktivieren, bis ein Upgrade durchgeführt werden kann.

2   Durch die Änderungen, die vorgenommen wurden, um die Leistung der Anwendung zu verbessern, werden Wiederherstellungspunkte in AppAssure 5.4.1 und höher anders dargestellt als in früheren Releases. Bei einem Upgrade von AppAssure 5.3.x auf AppAssure 5.4.1 oder höher, z. B. auf dieses 5.4.2-Release, werden vorhandene Wiederherstellungspunkte in die neue Darstellung konvertiert. **Aus diesem Grund ist ein Downgrade einer 5.4.x-Installation auf 5.3 nur möglich, wenn das Repository neu erstellt wird.**

Informationen zu den Änderungen seit Release 5.4.1 finden Sie unter Funktionen und Verbesserungen.

> ⓘ | **HINWEIS:** Beim ersten Start des Core nach einem Upgrade von AppAssure 5.3.x auf AppAssure 5.4.x werden Wiederherstellungspunkte in die neue Darstellung konvertiert. Dieser Vorgang dauert ungefähr doppelt so lang wie das Laden der jeweiligen Wiederherstellungspunkte in früheren Versionen. Nach dieser anfänglichen Konvertierung werden Wiederherstellungspunkte jedoch wesentlich schneller geladen als in früheren Versionen.

Wenn Sie diese Version derzeit nicht installieren möchten, empfiehlt Dell Software, ein Upgrade auf AppAssure 5.3.7 durchzuführen, um von den neuesten Programmkorrekturen in der 5.3-Codebasis profitieren zu können. Weitere Informationen zu AppAssure 5.3.7 finden Sie in den AppAssure 5.3.7-Releaseinformationen.

Funktionen

Die folgende Liste enthält eine Übersicht über die neuen Funktionen von AppAssure 5 im Release 5.4.2.

- **Cloud-Archivierung und -Import.** AppAssure 5.4.2 bietet jetzt neue Cloud-Funktionen zum Archivieren und Abrufen von langfristig gespeicherten Daten sowie für die Verwaltung von Cloud-Konten.

    - **Archivierung in der Cloud.** Bei der Archivierung von Daten, die langfristig aufbewahrt werden sollen, können Sie Ihre Archive jetzt in Cloud-Speichern ablegen, z. B. Amazon S3, Microsoft Azure, Rackspace und andere Speicherplattformen, die auf OpenStack-Standards basieren.

    - **Import aus der Cloud.** Da die Cloud-basierte Archivierung unterstützt wird, können Sie jetzt auch archivierte Daten in den AppAssure 5 Core durch direktes Streaming aus einem Cloud-Speicherziel für den jeweiligen Core importieren.

    - **Cloud-Zugriffsverwaltung.** Da die Cloud-basierte Archivierung und der Cloud-basierte Import unterstützt werden, können Sie jetzt Cloud-Konten im Core-Menü „Extras" verwalten, indem Sie „Clouds" auswählen und Konten hinzufügen oder entfernen.

- **FIPS-Zertifizierung.** DellAppAssure 5.4.2 wurde vom U.S. Government National Institute of Standards and Technology (NIST) als FIPS 140-2 Level 1-konform zertifiziert. FIPS 140-2 ist ein Sicherheitsstandard der US-Regierung, der für die Zulassung von kryptografischen Modulen verwendet wird. Diese behördlich anerkannte Verschlüsselung wird von vielen Regierungsorganisationen (auf föderativer, bundesstaatlicher und lokaler Ebene), Finanzinstituten sowie von Unternehmen im Gesundheitswesen und in der Biotechnologie gefordert. Weitere Informationen finden Sie in der Zertifizierung 2143 im Zertifizierungsverzeichnis für NIST 140-1 und -2 unter http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401val2014.htm.

    Die folgenden Informationen sind noch nicht in der Produktdokumentation, sondern nur in diesen Releaseinformationen vorhanden.

- **Erweiterte Mailbox Restore-Suche für Exchange 2013.** Die Version von Mailbox Restore, die im Lieferumfang von AppAssure 5.4.2 vorhanden ist, bietet die Möglichkeit, eine erweiterte Suche in Exchange 2013-Datenspeichern durchzuführen. Mit der erweiterten Suchfunktion für Exchange 2013 können Sie ähnlich wie bei der Suchfunktion für Exchange 2007 und 2010 die Suche auf bestimmte

Elemente begrenzen, indem Sie Angaben wie Absender, Empfänger, Betreff, Datum und Größe zu einer Liste von Suchkriterien hinzufügen.

Das *Dell AppAssure Mailbox Restore for Exchange Benutzerhandbuch* enthält noch keine Beschreibung für diese Funktion.

Verbesserungen

Die folgende Liste enthält eine Übersicht über die Verbesserungen von AppAssure 5 im Release 5.4.2.

- **Verbesserungen der Archivfunktionen**. In AppAssure 5 wurden die Verwaltungsmöglichkeiten für Archive durch die folgenden Verbesserungen erweitert:

  - **Geplante Archivierung**. Sie können die Archivierung jetzt wiederkehrend planen und täglich, wöchentlich oder monatlich Archive erstellen. Diese Funktion unterstützt lokale, netzwerkbasierte und Cloud-basierte Archive.

  - **Inkrementelle Archivierung**. Bis dato wurde ein Archiv nach der Erstellung verschlossen. Jetzt können Sie inkrementelle Wiederherstellungspunkte zu einem vorhandenen Archiv hinzufügen, sodass nur die Änderungen seit der letzten Archiverstellung gespeichert werden.

- **Erweiterte Virtualisierungsunterstützung**. AppAssure 5 unterstützt jetzt virtuelle Maschinen der nächsten Generation für unterstützte Plattformen.

  - **Virtueller Export in Hyper-V-VMs der 2. Generation**. In Release 5.4.2 unterstützt AppAssure 5 jetzt virtuelle Hyper-V-Maschinen der 2. Generation, die UEFI-Firmware (Unified Extensible Firmware Interface), sicheren Start, SCSI-Start und Netzwerkstart über PXE unterstützen. AppAssure 5.4.2 bietet die neue Möglichkeit, virtuelle Exporte in solche virtuellen Maschinen auf Windows 8.1- und Windows 2012 R2-Hosts durchzuführen. Lediglich geschützte Maschinen mit den folgenden UEFI-Betriebssystemen unterstützen einen virtuellen Export auf Hyper-V-Hosts der 2. Generation: Windows 8, Windows 8.1, Windows Server 2012 und Windows Server 2012 R2.

  - **Unterstützung für VMware/ESXi-VMs**. AppAssure 5 unterstützt jetzt den Export nach VMware Workstation Version 10.0 sowie für Serverplattformen den Export nach ESXi Version 5.5 und vSphere 5.5. Dies umfasst virtuellen Export und Massenbereitstellung. Diese VMs unterstützen jetzt auch SATA-Controller, mehr maximalen Arbeitsspeicher und Hyper-V-Verschachtelung.

    Da VMware Workstation eine Desktop-Anwendung ist, werden Sie bei der Definition eines virtuellen Exports (einmalig oder kontinuierlich) aufgefordert, die jeweilige Version von VMware auszuwählen. Da ESXi und vSphere serverbasierte Anwendungen mit nativen APIs sind, müssen Sie in AppAssure 5 keine bestimmte Version angeben. Bei der Definition der Verbindungsinformationen für den virtuellen Host wird die entsprechende Version automatisch erkannt.

- **Verbesserungen der grafischen Benutzeroberfläche**. AppAssure Release 5.4.2 umfasst die folgenden Verbesserungen.

  - **Dashboard-Übersicht**. Die vertraute AppAssure-Dashboard-Übersichtsseite, die in Versionen von Release 5.4.1 verfügbar war, wurde in Release 5.4.2 wieder hinzugefügt. Die Core-Startseite enthält eine Übersicht über geschützte Maschinen und Cluster, replizierte Maschinen und verwaiste Agenten (Agenten, die nur Wiederherstellungspunkte umfassen). Angezeigt werden jeweils Maschinenstatus, das zu den einzelnen Maschinen gehörende Repository, Anzahl der Wiederherstellungspunkte, letzter Snapshot sowie der insgesamt von den geschützten Maschinen belegte Speicherplatz.

  - **Core-Kurzanleitung**. Die in Release 5.4.1 eingeführte Kurzanleitungsfunktion wurde jetzt in der Begrüßungsanzeige in Core-Kurzanleitung umbenannt. Der Link im Hilfemenü verwendet jetzt die richtige Terminologie, Kurzanleitung.

  - **Aktualisierte Dokumentbibliothek**. Wenn Sie im AppAssure 5 Core auf das Dell-Logo klicken, wird jetzt die Dell Dokumentationsbibliothek in der Dell Supportwebsite aufgerufen, in der die gesamte Dokumentation verfügbar ist.

- **Verbesserte Unterstützung für SQL Server**. Release 5.4.2 umfasst die folgenden Verbesserungen:

  - **AppAssure 5.4.2 Core und Agent unterstützen SQL Server 2014**. AppAssure 5.4.2 bietet jetzt eine umfassende Unterstützung von Microsoft SQL Server 2014. Sie können SQL Server 2014 Agent-Maschinen oder Cluster im Core schützen. Vom AppAssure Core in 5.4.2 aus können Sie die SQL-Anfügbarkeit für SQL Server 2014 verwalten, z. B. nächtliche Anfügbarkeitsprüfungen aktivieren und bei Bedarf Anfügbarkeitsprüfungen erzwingen.

  - **DocRetriever for SharePoint 5.4.2 unterstützt SQL Server 2014**. Bei DocRetriever werden alle Funktionen, die bei früheren SQL Server-Versionen verfügbar waren, auch für Release 5.4.2 unterstützt. Sie können eine native SQL Server 2014-Sicherungsdatei als Wiederherstellungsquelle verwenden (sodass eine direkte Wiederherstellung von SharePoint aus möglich ist) und SharePoint-Objekte aus SQL Server 2014-Datenbanken wiederherstellen.

- **Änderungen der kontextsensitiven Hilfe**. In früheren Versionen von AppAssure 5 waren Hilfedateien enthalten, die als „Onlinehilfe" bezeichnet wurden. Release 5.4.2 enthält jetzt erweiterte Hilfedateien, die jetzt als „kontextsensitive Hilfe" bezeichnet werden. Wenn Sie in der AppAssure 5 Core Console auf das blaue Fragezeichensymbol klicken, wird ein Browserfenster geöffnet, das im linken Navigationsbereich ausgewählte Themen enthält. Der für das jeweils ausgewählte Thema relevante Inhalt wird im primären Hilfeinhaltsbereich auf der rechten Seite angezeigt. In der Navigationsstruktur wird immer die Position des ausgewählten Themas in der Hierarchie angezeigt.

  Die kontextsensitive Hilfe in diesem Release umfasst die folgenden Änderungen:

  - **Die Anordnung der Navigationsstruktur entspricht jetzt dem Aufbau des Benutzerhandbuchs**. Im linken Navigationsbereich der kontextsensitiven Hilfe sind die übergeordneten Themen jetzt wird im *AppAssure 5 Benutzerhandbuch* angeordnet. In diesem Release werden Themen, die sich auf das Dell AppAssure Lizenzportal beziehen, weiterhin als zweites Thema, „Informationen zum Abrufen eines Lizenzschlüssels", angezeigt.

    ⓘ HINWEIS: Inhalte in der kontextsensitiven Hilfe, die sich auf das Dell AppAssure Lizenzportal beziehen, sind veraltet und werden in einer späteren Version entfernt, da die aktuellsten Informationen immer im *Dell AppAssure Lizenzportal Benutzerhandbuch* enthalten sind, das einem anderen Releasezyklus als die AppAssure 5-Software unterliegt.

  - **Umfassender Zugriff auf den Inhalt des Benutzerhandbuchs**. Sie können jetzt den kompletten Inhalt des AppAssure 5 Benutzerhandbuchs im kontextsensitiven Hilfesystem durchsuchen.

  - **Neues Thema für die Verwaltung von Cloud-Konten**. Es gibt einen neuen Verweis auf die Hilfe in der AppAssure 5 Core Console. (Klicken Sie auf dem Core auf „Extras" und dann auf „Clouds".) Dieses Hilfethema enthält Informationen zu den neuen Funktionen zum Archivieren in Cloud-Konten und zum Import aus Cloud-Konten.

- **Aktualisierte produktinterne Hilfe für DocRetriever for SharePoint**. In der DocRetriever Console ist jetzt eine aktualisierte produktinterne Hilfe verfügbar. Wählen Sie im Hilfemenü **Hilfe zu DocRetriever for SharePoint** aus (oder drücken Sie die Taste **F1**). Daraufhin wird ein eigenständiges Fenster geöffnet, in dem das CHM-Format (Microsoft Compiled HTML) verwendet wird. Die aktualisierte Hilfe enthält den kompletten Inhalt des *DocRetriever for SharePoint Benutzerhandbuchs, Version 5.4.2* und ersetzt den veralteten Inhalt im *DocRetriever for SharePoint Installationshandbuch*.

Behobene Probleme

Nachstehend finden Sie eine Liste der behobenen Windows-Probleme in diesem Release.

Tabelle 1. Behobene Windows-Probleme

Behobenes Problem	Problem-ID
Nach einer BMR-Wiederherstellung wird ein neuer Snapshot als Basisimage erstellt	03587
Fehlerhafte Anzeige der Repositorystatistik	13709
VirtualBox-Export schlägt für Volumes fehl, die auf einer 2-TB-Platte erstellt wurden (VhdException: Die maximale Größe des virtuellen VHD-Datenträgers beträgt 2040 GB).	17050

Tabelle 1. Behobene Windows-Probleme

Behobenes Problem	Problem-ID
EFI-Maschinen 8 (8.1)/2012 (2012 R2) können nach BMR-Wiederherstellung gestartet werden	17349
Core-Dienst stürzt beim Aufruf des Lizenzportals ab	17394
Bereitstellung eines inkrementellen Wiederherstellungspunkts nach chkdsk von Laufwerk C: auf der Agent-Maschine nicht zugänglich	17616
Bereitstellbarkeitsprüfung für Exchange 2013-Datenbanken in Windows 2012 R2 schlägt mit der Fehlermeldung „JET-Sitzung kann nicht initialisiert werden" fehl.	18699
Nach einem Kaltstart oder beim Beenden des Prozesses während eines Rollup-Jobs erscheint ein verwaister Wiederherstellungspunkt (Error getting size of RPFS file ID 'DvmBadRecord').	18960
PowerShell: Die Ausführung des Befehls 'new-mount' mit der Option '-localdrive' schlägt fehl.	19026
Falscher Wert für „Nächster Snapshot" nach Core-Wiederherstellung	19116
AAlog-Dateien werden nach Deinstallation eines Agenten nicht entfernt, wenn der Agent unter Schutz steht	19284
Maschine kann nach einem URC-Rollback von Volume C: nur dann nicht gestartet werden (Fehlermeldung 'BOOTMGR fehlt'), wenn der ursprüngliche Agent einen Booteintrag in SRP oder in einem anderen Nicht-System-Volume aufweist. Kann mit „Startprobleme reparieren" nicht behoben werden.	19464
Bei der Ausführung des Core Installers wird die Fehlermeldung 'Zip-Archiv fehlt oder enthält ungültige Daten' angezeigt (Windows Server Core).	19586
Im Repository werden Volume-Images bisweilen doppelt angezeigt.	19637
Geringe Leistung beim Abrufen der Clustermetadaten	19911
Keine Möglichkeit, eine Core 5.3.6-Konfiguration in Core 5.4.1 wiederherzustellen	19937
Unabhängig von der Größe der Zuordnungseinheit des Dateisystems gibt es derzeit keine Möglichkeit, ein Repository mit einer Größe von mehr als 16 TB zu erstellen.	19988
Wenn Sie die Agent-Software deinstallieren (und der Agent unter Schutz bleibt) und dann die Agent-Software erneut installieren, muss anstelle eines inkrementellen Snapshots ein Basisimage-Snapshot erstellt werden.	20026
Es gibt keine Möglichkeit, mit der Start-CD eine Wiederherstellung mit manueller Volume-Zuordnung durchzuführen (Internet Explorer 8).	20083
Rollup-Job wird (im Rahmen der nächtlichen Jobs) nach einem Update vom Build 5.3.6 auf 5.4.1 deaktiviert.	20168
Protokollkürzungsjob wird (im Rahmen der nächtlichen Jobs) nach einem Update vom Build 5.3.6 auf 5.4.1 deaktiviert.	20169
Nächster Virtual Standby-Export schlägt fehl, nachdem ein Volume aus der Schutzgruppe entfernt wurde.	20176
Agentenbereitstellung schlägt in einer bestimmten Umgebung mit der Fehlermeldung 'Verbindung zum Remote-Server nicht möglich' fehl.	20184
Wiederherstellung von Volumes schlägt mit dem Fehler 'DmvUnmountFailed' fehl, wenn der externe Speicher einen unbekannten Status aufweist.	20188
Wenn Sie auf der Registerkarte „Zusammenfassung" für einen Cluster in der Tabelle der SQL Server-Verfügbarkeitsgruppen eine zweite Verfügbarkeitsgruppe erweitern, wird der Fehler angezeigt, dass eine Erweiterung mit den Namen 'databasesGrid' bereits vorhanden ist.	20211
Der Import eines inkrementellen Archivs, das auf neuen Cores erstellt wurde, schlägt mit „Es wurde ein falscher Speicherort für die Wiederherstellung angegeben:" fehl.	20232
Übertragungen werden nicht für den Agenten gestartet, wenn ein Übertragungsjob während einer automatischen Aktualisierung abgebrochen wurde.	20348
Job aus Warteschlange konnte nicht gestartet werden, wenn ein gesperrter Job fehlschlägt	20404
(PowerShell) VirtualBox-Export über PowerShell schlägt mit dem folgenden Fehler fehl: „Exportaufgabe kann nicht ausgeführt werden".	20424

Tabelle 1. Behobene Windows-Probleme

Behobenes Problem	Problem-ID
Bereitstellungspunkte werden beim Start des Core-Dienstes nicht gelöscht, wenn der Core vorher nicht ordnungsgemäß heruntergefahren wurde.	20441
Partitionstyp und ID der Wiederherstellungspartition gehen nach einer BMR-Wiederherstellung verloren.	20504
Keine Möglichkeit, ein Volume ohne Laufwerksbuchstaben oder ein mit PowerShell als NTFS-Ordner bereitgestelltes Volume zu schützen	20538
BMR-Ereignisse einer Appliance werden in der Liste der Ereignisse in Benachrichtigungsgruppen nicht angezeigt.	20726
AACMD: Es ist möglich, mit aacmd ein Rollup für replizierte Agenten mit dem alten Replikationsmodus zu erzwingen.	20740
Wenn Sie versuchen, eine Replikation mit einem Seed-Laufwerk von Core 5.3.7 auf einen 5.4.1-Core zu konfigurieren, wird die Fehlermeldung angezeigt, dass eine abstrakte Klasse nicht erstellt werden kann.	20910
In bestimmten Fällen schlug das Bereitstellen eines Repositorys unter Windows 2012 R2 fehl.	20916
ESX(i)-Export für inkrementellen Snapshot schlägt bisweilen mit der folgenden Fehlermeldung fehl: 'Microsoft.SqlServer.Management.Smo.FailedOperationException: Netzwerkfreigabe ist nicht verfügbar'.	21008
Fehlerhaftes Verhalten von Replikationszeitplaneinstellungen	21190
Wegen Layoutproblemen keine Möglichkeit, mit dem Replikationsassistenten eine Replikation einzurichten, wenn viele Agenten durch den Core geschützt werden	21219
Die Listen „Nur Wiederherstellungspunkte" und „Replizierte Maschinen" für geschützte Maschinen sollten auf der Core-Registerkarte „Startseite" angezeigt werden.	21220
Leistungsprobleme des Core bei vielen geschützten Agenten	21222
Core stürzt mit AccessViolationException im Export-Nachbearbeitungsschritt ab, wenn die Registrierung des Agenten mehr als 65535 Schlüssel enthält.	21280
In der LMU-Konsole werden keine Cluster angezeigt.	21295
Datum des letzten Exports wird nach einem erzwungenen Export nicht geändert.	21296
Einige Repositorys können nicht bereitgestellt werden, wenn in Cores in der Repositoryüberprüfungsphase ein nicht schwerwiegender Fehler auftritt.	21300
Fehlerhafte Überprüfung des freien Speicherplatzes für den HYPER-V-Export	21331
Die zentrale Konsole wird nicht gestartet, wenn der angemeldete Domänenadministrator Mitglied einer rekursiv definierten Gruppe ist.	21344
Nächtlicher Job wird in der Unternehmensumgebung nicht ausgeführt.	21409
In C:\Windows\Temp werden jede Minute drei .LOG-Dateien erstellt, wenn der Agent-Dienst ausgeführt wird.	21479
Die Überprüfung der Integrität von Wiederherstellungspunkten darf während nächtlicher Jobs nicht parallel zur Anfügbarkeitsprüfung oder der Prüfsummenprüfung gestartet werden.	21504
Exportjob kann nicht gestartet werden, weil die Kette der Wiederherstellungspunkte unvollständig ist.	21529
System bleibt beim Laden der Wiederherstellungspunkte hängen (Deadlock in ConcurrentList).	21550
Maschine wird während eines Bereitstellungsjobs neu gestartet, obwohl „Maschine nach der Installation automatisch neu starten (empfohlen)" deaktiviert ist.	21576
Keine Möglichkeit, ein benutzerdefiniertes Serverzertifikat zu verwenden	21603
Der kontinuierliche Hyper-V-Export schlägt mit der System.IO.IOException-Fehlermeldung fehl, dass der Prozess nicht auf die Datei '\\…disk1.vhd' zugreifen kann, weil sie von einem anderen Prozess verwendet wird.	21619
E-Mail-Benachrichtigung funktioniert bei mehreren Hintergrundjobs nicht.	21682
Beim Abbruch eines Jobs wird eine interne Aufgabe u. U. nicht abgebrochen.	21701

Tabelle 1. Behobene Windows-Probleme

Behobenes Problem	Problem-ID
Keine Möglichkeit, auf der Registerkarte „Replikation" mehr als 10 Agenten in den Listen „Eingehende Replikation" oder „Ausgehende Replikation" auszuwählen	21767
MD5-Digestbetrieb schlägt mit der folgenden Meldung fehl: „Digest für Block 0 erwartet, verwendet wurde aber 1. Gesamtzahl der Blöcke in der Warteschlange ist 6"	21796
Ein in AppAssure 5.3.7 erstelltes Archiv kann manchmal nicht in AppAssure 5.4.2 importiert werden.	21817
Der Core-Dienst bleibt beim Beenden wegen eines verzögerten Löschvorgangs hängen.	22075
Falscher Replikationsmodus nach einem Neustart	22168
Replikation hängt (Job ist permanent aktiv)	23268
Rollup-Job weist immer den Status 'in Warteschlange' auf, wenn ständig aktive Übertragungen vorhanden sind.	23466
Der kontinuierliche Hyper-V-Export schlägt mit einer Fehlermeldung fehl, wenn die Exporteinstellung für einen Agenten nach einem Upgrade auf 5.4.2 oder einen neueren Build bearbeitet werden soll.	23470
Bereitstellung schlägt mit der Fehlermeldung "TevoMountReplay - Fehler: -2147024873 (0x80070017 - Datenfehler (CRC-Prüfung))" fehl, wenn der Wiederherstellungspunkt mit der Agent-Version 5.3.1/5.3.2 erstellt wurde.	23522
Die Schaltfläche „Löschen" für einen Basis-/inkrementellen Wiederherstellungspunkt löscht beide Wiederherstellungspunktketten.	23538
Übertragungszeitplanvorlagen funktionieren nicht für 'Mo-Fr'.	23547
Warteschlange für Prüfsummenprüfung ist nicht funktionsfähig.	23586
Es wurde ein mögliches Problem in AppAssure, Version 5.4.2.189, festgestellt, das vorübergehend den Zugriff auf einige Wiederherstellungspunkte in Cores verhindern kann, für die bestimmte Last- oder Fehlerbedingungen zutreffen. In extremen Fällen kann dieses Problem zum Verlust einiger Wiederherstellungspunkte führen. Allen Kunden, die Release 5.4.2.189 verwenden, wird geraten, sofort ein Upgrade auf 5.4.2.228 oder höher durchzuführen.	23630
Schutzintervall wird im Taskplaner-Assistenten in IE9 nicht einwandfrei gespeichert.	23779
Bei einem kontinuierlichen Hyper-V-Exportjob wird eine neue Ethernet-Adapterinstanz zur exportierten VM hinzugefügt.	23815
PowerShell-Modul funktioniert unter Windows in einer anderen lokalisierten Sprache als Englisch nicht.	23838
Nach dem Beenden AppAssure Core-Prozesses, wenn ein verzögerter Löschvorgang durchgeführt wird, darf die Löschlogik für RPFS-Dateien nicht zweimal durchgeführt werden.	23844
Nach einem Rollup werden in bestimmten Fällen verwaiste Wiederherstellungspunkt angezeigt.	23909

Nachstehend finden Sie eine Liste der behobenen Linux-Probleme in diesem Release.

Tabelle 2. Behobene Linux-Probleme

Behobenes Problem	Problem-ID
Problem mit Modul: Snapshot-Massenerstellung kann nicht gestoppt werden oder Snapshot-Erstellung für nicht bereitgestelltes Gerät kann nicht abgebrochen werden.	15744
BMR-Rollback schlägt mit Zeitüberschreitungsfehler und Soft-Lockup unter Centos 32-Bit fehl.	16866
BMR-Wiederherstellung schlägt am Anfang des Wiederherstellungsprozesses mit einem Zeitlimitfehler fehl (32-Bit- und 64-Bit-Systeme).	16889
BMR-Wiederherstellung schlägt direkt am Anfang auf 32-Bit- und 64-Bit-Systemen mit einem Zeitüberschreitungsfehler fehl.	16889
Core kann bei BMR-Wiederherstellung keine Verbindung zur Live-CD herstellen.	19492

Tabelle 2. Behobene Linux-Probleme

Behobenes Problem	Problem-ID
Problem bei BMR-Wiederherstellung: Wird beim Start wegen einer bestimmten Volume-Auswahl mit dem folgenden Fehler blockiert: Nur NTFS-Volumes können verkleinert werden.	19697
Snapshots für Sicherungen von großen Volumes (5 TB) für den Linux-Agenten (5.3.6.125) schlagen mit dem Fehler fehl, dass der Kopiervorgang bei Offset '22909288448' Länge '4194304' mit dem Fehler „EBADF - Bad file descriptor" fehlgeschlagen ist.	19718
Übertragung von 5-TB-Volume schlägt nach einer Übertragungszeit von 10 Minuten mit der Fehlermeldung fehl, dass der Kopiervorgang bei Offset '22909288448' Länge '4194304' mit dem Fehler „EBADF - Bad file descriptor" fehlgeschlagen ist.	19718
Problem bei PostExport: Skript schlägt mit dem Fehler fehl, dass der Objektverweis nicht auf ein Objekt festgelegt ist (System.NullReferenceException).	20025
Sicherungen schlagen wegen einzelner Deadlocks im HTTP-Listener bisweilen fehl.	20179
Wiederherstellungspunkte von nicht angeschlossenen XFS-Volumes mit Blockgrößen von 512 und 1024 können nicht bereitgestellt werden.	20919
Modul kann keine Übertragung von einem XFS-Volume durchführen, wenn auf dem Volume eine Vielzahl von Aktivitäten stattfindet.	21032
Anforderungen während der Basisimageerstellung auf physischen und virtuellen Maschinen mit einem neuen Linux-Kernel	21041
Problem bei Fehler im Modul, wenn ein Datenspeicher auf einem EXT3-Volume erstellt wird, nachdem es entfernt wurde, und das Snapshot-Gerät in dieser Zeit geöffnet ist	21103
Problem in aamount beim Rollback von XFS, EXT4 und EXT3, nachdem die Meldung erhalten wurde, dass der Datenträger voll ist	21189
Probleme bei der Unterstützung großer Volumes im EXT4-Dateisystem	21341
Abrufen von Informationen von einem XFS-Volume nicht möglich und Probleme beim Ermitteln der verwendeten Daten	21342
Fehlerhafte Erkennung des VM-Typs für Linux-Agent	21436
Keine Möglichkeit, die Integrität eines Datenspeichers vor der Übertragung zu überprüfen	21516
Bei einem Datenträger, der auf einem EXT3-Dateisystem wiederhergestellt wurde, treten Probleme auf.	21695
Keine Möglichkeit, den Replay Engine-Port für aamount zu konfigurieren	21803
Prüfung des Datenspeichers von Agenten funktioniert nicht, wenn der Datenspeicher nicht die Standardgröße aufweist.	23308
Prüfung des Datenspeichers schlägt nach einem Upgrade von 5.4.1.21041 auf 5.4.2 fehl.	23427
Neuerstellung des Datenspeichers, wenn die Prüfung des Datenspeichers bei einem Upgrade fehlschlägt	24110

Nachstehend finden Sie eine Liste der behobenen Mailbox Restore-Probleme in diesem Release.

Tabelle 3. Behobene Mailbox Restore-Probleme

Behobenes Problem	Problem-ID
Falsche Vorlage im Fenster „Datenbankwartungsassistent"	14860
Nach dem Öffnen einer Öffentlichen Ordner-Datenbank für Exchange 2010 werden seltsame Elemente angezeigt.	16301
Wiederherstellung von zuletzt erstellten oder aktualisierten Elementen aus der neuesten Datenbankkopie in die älteste Datenbank, wenn die Option „Überschreiben, wenn neuer" im Wiederherstellungsassistenten ausgewählt ist	20079
Mailbox Restore bleibt beim Öffnen einer EDB längere Zeit hängen, wenn kein Datenbanksystempfad angegeben ist.	20911

Tabelle 3. Behobene Mailbox Restore-Probleme

Behobenes Problem	Problem-ID
Fehlerhaftes Verhalten, wenn Meldungen nicht angezeigt werden, nachdem der Suchverlauf gelöscht und der Ordner ausgewählt wurde, in dem die Suche durchgeführt wurde	20957
Duplizierte E-Mail-Regeln nach einer Wiederherstellung am ursprünglichen Speicherort, wenn die Option „Nur Unterschiedliches wiederherstellen" ausgewählt ist	21024
Beim Öffnen von Mailbox Restore auf einer Maschine, auf der Outlook nicht installiert ist, wird der Fehler „Verbindung zu MAPI-Wiederherstellungsdienst kann nicht hergestellt werden" angezeigt.	21297
Nach einem Upgrade wird die Fehler angezeigt, dass der Wert '-25' für die Größe nicht gültig ist.	21310
Aufgabe ohne Datum wird nicht ordnungsgemäß angezeigt.	21349
Beim Öffnen von Infos einer Datenbank bleibt die Datenbank nach einem Upgrade bei „Nachrichten werden abgerufen" hängen.	21351
Mailbox Restore schlägt bei Exchange 2013 mit dem Fehler „Der Objektverweis ist nicht auf eine Objektinstanz festgelegt" fehl.	21467
Es werden keine Nachrichten anhand der E-Mail-Adresse gefunden, die in den Empfängerdaten gespeichert ist.	21476
Alphabetische Reihenfolge für Postfächer implementiert	21512
Mailbox Restore schlägt mit dem Fehler fehl, dass ein Schlüssel doppelt vorhanden ist (JET_errKeyDuplicate).	21582
Keine Reaktion, wenn dieselbe primäre PST-Datei und PST-Überlaufdatei im Wiederherstellungsassistenten ausgewählt wird	21602

Nachstehend finden Sie eine Liste der behobenen DocRetriever-Probleme in diesem Release.

Tabelle 4. Behobene DocRetriever-Probleme

Behobenes Problem	Problem-ID
Falsche Copyrightinformationen auf der Begrüßungsanzeige	12942
Gemeinsame Wiederherstellung von Blogbeiträgen und Kommentaren nicht möglich	14614
Problem bei der Erkennung des Front-End-Servers eines Agenten bei einem einzelnen Server	15598
Wiederherstellung von Webparts nicht möglich, wenn Unterwebsite wiederhergestellt wird	17352
Kalenderinhalte werden nach einer Wiederherstellung in SharePoint 2007 nicht angezeigt.	18931
Name der Menüoption „Einstellungen" und der tatsächliche Name des Assistenten sind nicht identisch.	19486
Falsches Symbol für die Menüoption „Replay-Wiederherstellungspunkte"	19589
Falscher Name für SQL-Sicherung nach dem Öffnen in der DR-Konsole	20698
Beim Trennen der SharePoint-Inhaltsdatenbank und Öffnen der Farm in DocRetriever wird der Fehler angezeigt, dass für die Datenbank ein SQL-Fehler aufgetreten ist.	21230
Nachdem die Blogwebsite wiederhergestellt wurde, sind im Wiederherstellungsprotokoll leere Meldungen enthalten.	21372

Nachstehend finden Sie eine Liste der behobenen Dokumentationsprobleme in diesem Release.

Tabelle 5. Behobene Dokumentationsprobleme

Behobenes Problem	Problem-ID
Alle AppAssure-Dokumente enthalten einen Index, der nicht mehr notwendig ist.	21902
Da die gesamte AppAssure 5-Dokumentation jetzt im PDF-Format und im HTML-Format auf unserer Supportwebsite verfügbar ist und mit den betreffenden Tools durchsucht werden können, wurden die Indexe entfernt, da sie überflüssig sind.	
Es gibt keine Informationen zur eingeschränkten Unterstützung für freigegebene Clustervolumes.	21967
Die Informationen zur eingeschränkten Unterstützung für freigegebene Clustervolumes, die in den Releaseinformationen für AppAssure 5, Release 5.4.1 vorhanden waren, wurden im AppAssure 5 Benutzerhandbuch im Kapitel 4 im neuen Thema „Begrenzte Unterstützung für freigegebene Clustervolumes" hinzugefügt.	

Bekannte Probleme

Nachstehend finden Sie eine Liste der Windows-Softwareprobleme (einschließlich Probleme, die auf Drittanbieter zurückzuführen sind), die derzeit in diesem Release vorhanden sind.

Tabelle 6. Bekannte Windows-Softwareprobleme

Bekanntes Problem	Problem-ID
Die Bereitstellung von Wiederherstellungspunkten mit Speicher-Volumes für eine einzelne Instanz muss auf Cores deaktiviert werden, die ein Betriebssystem ohne SIS-Unterstützung verwenden.	15072
Die Replikation schlägt mit dem Fehler „Die Sequenz enthält mehrere übereinstimmende Elemente" fehl, weil Ordner im Staging-Bereich doppelt vorhanden sind.	16281
Repositoryprüfung schlägt mit dem Fehler „FSincomplete" fehl, nachdem Volumes über die Registerkarte „Appliance" erneut bereitgestellt wurden.	17860
Anzeige von BSOD auf der Core-Maschine unter Windows 2012 R2, wenn während eines Bereitstellungsvorgangs viele aktive Aufgaben durchgeführt werden	19305
In den Clustermetadaten wird nur die erste Partition eines Datenträgers mit mehreren Partitionen angezeigt (Windows 2003).	19739
Der LMU-Prozess ist immer im Hintergrund aktiv.	19949
Der erste Replikationsjob wird gestartet, während die Übertragung durchgeführt wird.	20220
Die Anmeldeinformationen eines Agenten sind in der XML-Ausgabe der API-Anforderung nicht verschlüsselt.	20578
Pufferleck: Ein Ad-hoc-Puffer vom Typ System.UInt64 wird fertiggestellt, obwohl er hätte gelöscht werden müssen.	21123
in bestimmten Fällen kann beim Bereitstellen eines Repositorys ein Speicherleck auftreten.	21273
Maschine kann nach einem ESXi-Export nicht gestartet werden, wenn der Startschlüssel für den LSI_SAS-Treiber im Agenten auf 3 gesetzt ist. In den Releaseinformationen für Version 5.4.2 Revision B wurde dieser Fehler fälschlicherweise als behobenes Problem klassifiziert. Dies ist die einzige Änderung in Revision C.	21329
Core stürzt mit AccessViolationException ab, wenn einige Volume-Images eine falsche Größe des RPFS-Dateiheaders aufweisen.	21541
Wenn der Core beim Löschen der RPFS-Indexdatei abstürzt, kann ein doppelter Löschdatensatz vorkommen.	21575
Probleme beim Aufheben der Bereitstellung von Bereitstellungspunkten beim Stoppen des Core-Dienstes	21633

Tabelle 6. Bekannte Windows-Softwareprobleme

Bekanntes Problem	Problem-ID
Registerkarte für Cluster/replizierte Cluster-Wiederherstellungspunkte und Registerkarte „Konfiguration" sind nach einem Upgrade nicht verfügbar, wenn keine neuen Wiederherstellungspunkte erstellt wurden.	21688
Benutzerdefinierte Benachrichtigungseinstellungen werden nicht für einen Agenten übernommen.	21704
Prüfsummenprüfung für Exchange 2013 schlägt mit dem Fehler fehl, dass die Prüfsummenprüfungen nicht übereinstimmen.	21717
Es gibt keine Möglichkeit, die SQL-Anmeldeinformationen in der grafischen Benutzeroberfläche des Core zu ändern.	21734
Benutzerdefinierter Port wird bei der Installation nicht für den Core verwendet.	21808
Manchmal reagiert die grafische Benutzeroberfläche bei einer Repositoryprüfung nicht mehr.	21821
Die Central Management Console kann nicht geöffnet werden, wenn das Protokoll FIPS 140-2 aktiviert ist.	21830
Die Treiberinjektion funktioniert nicht unter Windows 2003, 2008 oder XP.	21868
Der Central Management Console-Dienst wird nach einem Systemneustart u. U. nicht automatisch gestartet.	21874
Windows 2012 wird für EC2-Export nicht unterstützt.	22025
Import aus einem Archiv mit inkrementellen Sicherungen mehrerer Cores schlägt mit dem folgenden Fehler fehl: „Wert darf nicht NULL oder leer sein. Parametername: path1."	22141
Beim Import eines Archivs mit automatischer Segmentierung aus einer Cloud wird eine falsche Archivgröße angezeigt.	22161
Die Deduplizierungsrate wird nach einem Neustart des Core-Dienstes auf 0% zurückgesetzt.	23195

Nachstehend finden Sie eine Liste der Linux-Softwareprobleme (einschließlich Probleme, die auf Drittanbieter zurückzuführen sind), die derzeit in diesem Release vorhanden sind.

Tabelle 7. Bekannte Linux-Softwareprobleme

Bekanntes Problem	Problem-ID
Nach dem Upgrade unter SUSE Linux Enterprise Server (SLES) 64-Bit wird das Kernelmodul nach einem Neustart nicht erstellt und der schwerwiegende Fehler gemeldet, dass das Modul appassure_vss nicht gefunden wurde.	14598
Die Leistung von virtuellen Exporten ist bei LVM-Volumes (Logical Volume Manager) gering.	16151
Modul appassure_vss wird in einem Nicht-Installationskernel nicht automatisch geladen.	16525
Das Rollback einer Linux-Maschine mit AAMOUNT wird für ext3-, ext4- oder XFS-Volumes auf einer einzelnen Festplatte durchgeführt. Es wird aber ein E/A-Fehler beim Schreiben der Ausgabedatei mit dem Fehler angezeigt, dass der Rollback-Vorgang fehlgeschlagen ist.	18955
Nach einem virtuellen Export von ESX oder Hyper-V nach SUSE Linux Enterprise Server (SLES) 64-Bit kann die exportierte VM nicht gestartet werden.	19064
Im Linux-Kernelmodul müssen Bitmap-Speicherprobleme, z. B. inkonsistente Dateien im bereitgestellten Wiederherstellungspunkt, inkonsistente Rollback-Daten und mögliche Inkonsistenzen im Root-Volume korrigiert werden.	19335
Core ruft bei BMR-Wiederherstellung mit automatischer Partitionierung nicht FixbootRequest auf.	19760
Bei einer bestimmten Umgebung schlägt das Installationsprogramm fehl, wenn das Betriebssystem über keine Kernel-Header für zuvor installierte Linux-Kernel-Images im Repository verfügt.	20462
Keine Möglichkeit, die Agent-ID zu speichern, nachdem der Agent erneut installiert wurde	21511
Agent kann nicht im nicht interaktiven Modus installiert werden.	21517
Kein „swap creation"-Schritt in Nachskript für Export	21648

Tabelle 7. Bekannte Linux-Softwareprobleme

Bekanntes Problem	Problem-ID
SLES-Maschine kann nach einer BMR-Wiederherstellung wegen der device.map-Datei nicht gestartet werden.	21849
Kein Upgrade auf 5.4.2 vom kundenspezifischen 5.4.1-Build möglich, der das behobene Linux-Problem 21041 behebt	22177

Nachstehend finden Sie eine Liste der Mailbox Restore-Softwareprobleme, die derzeit in diesem Release vorhanden sind.

Tabelle 8. Bekannte Mailbox Restore-Softwareprobleme

Bekanntes Problem	Problem-ID
Beim Versuch, eine gelöschte Datenbank auf der Registerkarte „Zuletzt geöffnete Datenbanken" zu öffnen, wird die Meldung angezeigt, dass mindestens eine Datenbankdatei fehlt.	19579
Der Text von RTF-Nachrichten wird nicht ordnungsgemäß angezeigt.	19788
Die Protokollierung während einer Wiederherstellung bewirkt, dass der Prozess fehlschlägt oder hängen bleibt.	20109
E-Mail-Adresse im BCC-Feld wird in die Felder „An" und „CC" kopiert.	21732
Die Suche nach einer Nachricht mit den Kriterien „CC/BCC" und „Ist leer/Ist nicht leer" schlägt mit dem Fehler „Wert darf nicht NULL oder leer sein" fehl.	21750
Es ist möglich, durch Doppelklicken ein erweitertes Suchfenster für die Bearbeitung zu öffnen, während die Suche durchgeführt wird.	21871
Einige Benutzerpostfächer werden mit der Fehlermeldung dupliziert, dass eine solche Tabelle oder ein solches Objekt nicht vorhanden ist, wenn sie für eine bestimmte EDB erweitert werden.	21921
Der Datenbankwartungsassistent ist für Exchange 2013 nicht verfügbar.	21997

Nachstehend finden Sie eine Liste der DocRetriever-Softwareprobleme, die derzeit in diesem Release vorhanden sind.

Tabelle 9. Bekannte DocRetriever-Softwareprobleme

Bekanntes Problem	Problem-ID
In der Konsole wird eine Liste an einem anderen Speicherort mit einer benutzerdefinierten Websiteinhaltstyp-Eigenschaft nicht wiederhergestellt.	14577
Die Suche nach Containernamen funktioniert nicht.	17887
Im Fenster „Wiederherstellungsprotokoll" wird die Fehlermeldung „Erstellen der Webpartliste ist fehlgeschlagen" angezeigt, obwohl das Webpart erfolgreich wiederhergestellt wurde.	18804
Nach Auswahl der Option „Verfügt über Anhang" in den Suchoptionen für „Suchen in:" werden falsche Suchergebnisse angezeigt.	19477
Es ist nicht möglich, einen gültigen Pfad für den Speicherort der DR-Dienstdatenbank einzurichten, nachdem zunächst ein ungültiger Pfad angegeben wurde.	19502
Die Meldung „Allgemeiner Fehler. Details finden Sie im Protokoll" wird angezeigt, wenn der Stammordner als Speicherort für die DR SP-Dienstdatenbank festgelegt wurde.	20435
Wenn für das Feld „Erstellungsdatum" oder „Zuletzt geändert" einer durchgeführten Suche ein leerer Wert festgelegt wird, wird die Ausnahme „Die angegebene Umwandlung ist ungültig" angezeigt.	20959
Die Versionsliste eines Dokuments wird nicht wiederhergestellt.	21352
Webpart „Beitrag" wird zwei Mal, anstatt nur ein Mal wiederhergestellt.	21371

Nachstehend finden Sie eine Liste der Dokumentationsprobleme, die derzeit in diesem Release vorhanden sind.

Tabelle 10. Bekannte Dokumentationsprobleme

Bekanntes Problem

Die Systemanforderungen in diesen Releaseinformationen für den AppAssure 5 Core und die AppAssure 5 Central Management Console-Komponenten wurden dahingehend klargestellt, dass .NET Framework (Release 4.0x) auf jeder geschützten AppAssure 5 Agent-Maschine installiert sein muss. Diese Informationen wurden dem Abschnitt vorangestellt, in dem richtigerweise gesagt wird, dass .NET Framework 4.5 für Computer unter Windows 8, Windows 8.1, Microsoft Windows Server 2012 und Microsoft Windows Server 2012 R2 erforderlich ist.

Bei der Installation des AppAssure 5 Core bzw. der Central Management Console-Software überprüft das Installationsprogramm, ob die entsprechende erforderliche Microsoft .NET-Komponente vorhanden ist. Falls dies nicht der Fall ist, wird die erforderliche Version von .NET Framework bei der Installation (oder beim Upgrade) automatisch installiert.

Diese Änderungen werden in die Systemanforderungen für AppAssure 5 in der Produktdokumentation von Release 5.4.3 aufgenommen.

Die Systemanforderungen in diesen Releaseinformationen für die AppAssure 5 Agent-Software wurden dahingehend klargestellt, dass .NET Framework (Release 4.0x) auf jedem geschützten AppAssure 5 Agent installiert sein muss. Bei der Installation der Agent-Software überprüft das Installationsprogramm, ob die entsprechende erforderliche Microsoft .NET-Komponente vorhanden ist. Falls dies nicht der Fall ist, wird die erforderliche Version von .NET Framework bei der Installation (oder beim Upgrade) automatisch installiert.

Diese Änderungen werden in die Systemanforderungen für AppAssure 5 in der Produktdokumentation von Release 5.4.3 aufgenommen.

Beim Klicken auf das Hilfesymbol ? in der AppAssure 5-Benutzeroberfläche wird ein Browserfenster mit einer kontextsensitive Hilfe geöffnet. Die folgende Liste enthält Hilfeaufrufe, bei denen im derzeitigen Release falsche Hilfethemen der kontextsensitiven Hilfe angezeigt werden.

Tabelle 11. Bekannte Probleme bei der kontextsensitiven Hilfe

Bekanntes Problem

Wenn Sie in der AppAssure 5 Core Console direkt auf das Menü **Geschützte Maschinen** klicken, wird die Registerkarte „Maschinen" angezeigt. Die Registerkarte „Maschinen" enthält einen Bereich „Geschützte Maschinen", in dem alle im Core geschützten Maschinen angezeigt werden (sofern vorhanden). Wenn Sie die kontextsensitive Hilfe vom Bereich „Geschützte Maschinen" aus öffnen, wird das Thema „Schützen einer Maschine" angezeigt. Das Schützen einer Maschine ist allerdings nur eine Funktion, die Sie durchführen können. Das Thema „Anzeigen und Verwalten geschützter Maschinen" ist in diesem Kontext besser geeignet. Sie können dieses Thema über die Suchschaltfläche im Browserfenster der kontextsensitiven Hilfe suchen. Sie finden dieses Thema auch in Kapitel 2 im *AppAssure 5 Benutzerhandbuch*.

Wenn Sie in der AppAssure 5 Core Console auf die Registerkarte **Extras** und dann auf **Clouds** klicken, wird der Bereich „Clouds" angezeigt. In diesem Teil der Benutzeroberfläche können Sie beliebige vorhandene Konten für Cloud-Speicher in der AppAssure 5 Core verwalten, damit Sie archivierte Daten geschützter Maschinen in der Cloud speichern bzw. in AppAssure 5 archivierte Daten in die Cloud importieren können. Die Verwaltung von Cloud-Konten umfasst das Hinzufügen, Bearbeiten, Konfigurieren oder Entfernen von Cloud-Konten im AppAssure 5 Core für Archivierung oder Import.

Als kontextsensitives Hilfethema für diese Seite wird fälschlicherweise das Thema zum Erstellen eines Start-CD-ISO-Image für Windows angezeigt. Das richtige Thema, das angezeigt werden sollte, wenn Sie auf dieser Seite die Hilfe aufrufen ist „Verwalten von Cloud-Konten". Sie können dieses Thema über die Suchschaltfläche im Browserfenster der kontextsensitiven Hilfe suchen. Sie finden dieses Thema auch in Kapitel 2 im *AppAssure 5 Benutzerhandbuch*.

Wenn Sie in der AppAssure 5 Core Console eine geschützte Agent-Maschine auswählen, wird die Registerkarte „Zusammenfassung" mit zusammenfassenden Informationen zur geschützten Maschine angezeigt. Wenn Sie die kontextsensitive Hilfe vom Bereich „Zusammenfassung" aus öffnen, wird das Thema „Schützen einer Maschine" angezeigt. Allerdings sollte das Thema „Informationen zur Registerkarte "Zusammenfassung"" angezeigt werden. Sie finden dieses Thema in Kapitel 2 im *AppAssure 5 Benutzerhandbuch*.

Systemanforderungen

Sie müssen den AppAssure 5 Core auf einem dedizierten Windows 64-Bit-Server installieren. Für jede Maschine, die Sie in einem AppAssure 5 Core schützen möchten, müssen Sie die entsprechende Version der AppAssure 5 Agent-Software für das Betriebssystem der jeweiligen Maschine installieren. Abhängig von Ihrer Lizenz und den umgebungsspezifischen Anforderungen müssen Sie eventuell mehrere Cores installieren. Optional können Sie für die Remoteverwaltung mehrerer Cores die AppAssure 5 Central Management Console auf einem 64-Bit-Windows-Computer installieren.

Vergewissern Sie sich vor der Installation von AppAssure 5.4.2, dass das System die folgenden Mindestanforderungen für Hardware und Software erfüllt.

⚠ **VORSICHT:** Die Ausführung des AppAssure Core unter Windows Core-Betriebssystemen, die nur eingeschränkte Serverrollen bieten, wird von Dell nicht unterstützt. Dies umfasst alle Editionen von Windows Server 2008 Core, Windows Server 2008 R2 Core, Windows Server 2012 Core und Windows Server 2012 R2 Core. Die folgenden Betriebssysteme werden für die Ausführung der AppAssure Agent-Software unterstützt.

VORSICHT: Dell empfiehlt, den AppAssure 5 Core nicht auf derselben physischen Maschine zu installieren, die als Hyper-V-Host dient. (Diese Empfehlung gilt nicht für Sicherungs- und Wiederherstellungsappliances von Dell.)

Tabelle 12. Systemanforderungen

AppAssure 5-Komponente	Anforderung	Details
AppAssure 5 Core und AppAssure 5 Central Management Console	Betriebssystem	• Microsoft Windows 7 (alle x64-Editionen) • Microsoft Windows 8* (alle x64-Editionen) • Microsoft Windows 8.1* (alle x64-Editionen) • Microsoft Windows Server 2008 (alle x64-Editionen **außer** Windows Server 2008 Core) • Microsoft Windows Server 2008 R2 (alle x64-Editionen **außer** Windows Server 2008 R2 Core) • Microsoft Windows Server 2012* (alle x64-Editionen **außer** Windows Server 2012 Core) • Microsoft Windows Server 2012 R2* (alle x64-Editionen **außer** Windows Server 2012 R2 Core) HINWEIS: Auf Windows-Betriebssystemen muss .NET Framework 4.0x installiert sein, damit der AppAssure Core-Dienst ausgeführt werden kann. Darüber hinaus muss auf Betriebssystemen, die mit * markiert sind, die ASP .NET 4.5x-Rolle/Funktion installiert sein. Bei der Installation oder Aktualisierung des AppAssure 5 Core überprüft das Installationsprogramm abhängig vom Betriebssystem des Core-Servers, ob diese Komponenten vorhanden sind. Die Komponenten werden dann bei Bedarf automatisch installiert. Für eine optimale Leistung wird empfohlen, den AppAssure 5 Core unter Windows 8.1 (oder höher) und Windows Server 2012 (oder höher) zu installieren. Der AppAssure 5 Core erfordert eine 64-Bit-Windows-Plattform; 32-Bit-Systeme und Linux-Systeme werden nicht unterstützt.
	Architektur	Nur 64-Bit-Version
	Arbeitsspeicher	Mind. 8 GB RAM. Dell empfiehlt dringend, ECC-Speicher zu verwenden, um eine optimale Leistung der AppAssure Core-Server sicherzustellen.
	Prozessor	Quad-Core oder höher
	Speicher	DAS, SAN oder NAS
	Netzwerk	Mind. 1 GB

AppAssure 5-Komponente	Anforderung	Details
AppAssure 5 Agent	Betriebssystem	• Microsoft Windows XP SP3 (alle Editionen) • Microsoft Windows Vista (alle Editionen) • Microsoft Windows 7 (alle Editionen) • Microsoft Windows 8* (alle Editionen) • Microsoft Windows 8.1* (alle Editionen) • Microsoft Windows Server 2003 (alle Editionen) • Microsoft Windows Server 2008 (alle Editionen) • Microsoft Windows Server 2008 R2 (alle Editionen) • Microsoft Windows Server 2008 R2 SP1 Core Edition • Microsoft Windows Server 2012* (alle Editionen) • Microsoft Windows Server 2012 R2* (alle Editionen) • Microsoft Windows Storage Server 2012* (alle Editionen) • Microsoft Windows Storage Server 2012 R2* (alle Editionen) • Red Hat Enterprise Linux (RHEL) 6.3 • RHEL 6.4 • RHEL 6.5 • CentOS Linux 6.3 • CentOS Linux 6.4 • CentOS Linux 6.5 • Ubuntu Linux 12.04 LTS • Ubuntu Linux 13.04 • SUSE Linux Enterprise Server (SLES) 11 SP2 • SLES 11 SP3 HINWEIS: Auf Windows-Betriebssystemen muss Microsoft .NET Framework 4.0x installiert sein, damit der AppAssure Core-Dienst ausgeführt werden kann. HINWEIS: Die oben aufgeführten Linux-Distributionen werden unterstützt und wurden mit den meisten freigegebenen Kernel-Versionen getestet. HINWEIS: Agenten, die unter Microsoft Hyper-V Server 2012 installiert sind, arbeiten im Core Edition-Modus von Windows Server 2012. HINWEIS: Bei Linux-Agenten unterstützt AppAssure 5 nur die folgenden Dateisysteme: ext3, ext4 und xfs. HINWEIS: Native Sicherungen von freigegebenen Clustervolumes werden nur auf Windows 2008 R2-Agenten unterstützt.
	Architektur	32-Bit- oder 64-Bit-Version
	Arbeitsspeicher	Mind. 4 GB
	Microsoft Exchange-Unterstützung	Microsoft Exchange 2007 SP1 Rollup 5 oder höher, Microsoft Exchange 2010 oder Microsoft Exchange 2013
	Microsoft SQL-Unterstützung	Microsoft SQL Server 2005 oder höher

Weitere Informationen zum Installieren des AppAssure 5 Core, der Central Management Console und der Agent-Software finden Sie im *Dell AppAssure 5 Bereitstellungshandbuch*. Weitere Informationen zur Verwendung von AppAssure 5 finden Sie im *Dell AppAssure 5 Benutzerhandbuch*. Weitere Informationen zur Verwaltung von Dell AppAssure 5-Lizenzen finden Sie im *Dell AppAssure Lizenzportal Benutzerhandbuch*. Weitere Informationen zur

Auslegung von Hardware, Software, Arbeitsspeicher, Speicher sowie Netzwerkanforderungen finden Sie im Dell AppAssure Knowledge Base-Artikel 118407, „Sizing AppAssure 5 Deployments".

Upgrade und Kompatibilität

Beachten Sie die folgenden Vorbehalte, bewährten Verfahren und Kompatibilitätsprobleme bei einem Upgrade auf AppAssure Release 5.4.1 und höher.

Vorbehalte

- In AppAssure 5.4.x werden Wiederherstellungspunkte anders dargestellt als in früheren Releases. Bei einem Upgrade auf AppAssure 5.4.1 und höher werden Wiederherstellungspunkte in die neue Darstellung konvertiert, die nicht abwärtskompatibel ist. Ein Downgrade einer 5.4.x-Installation auf 5.3 ist nur möglich, wenn das Repository neu erstellt wird.

- Beim ersten Start des Core nach einem Upgrade von Versionen vor AppAssure 5.4.1 dauert die Konvertierung der vorhandenen Wiederherstellungspunkte ungefähr doppelt so lang wie das Laden der Wiederherstellungspunkte in früheren Versionen. Nach dieser anfänglichen Konvertierung werden Wiederherstellungspunkte jedoch wesentlich schneller geladen als in früheren Versionen.

- Wenn Sie nach einem Upgrade von Versionen vor AppAssure 5.4.1 auf einem replizierten Ziel-Core eine andere Aufbewahrungsrichtlinie einrichten möchten als die Aufbewahrungsrichtlinie auf dem Quell-Core, werden Sie aufgefordert, den neuen Integritätsprüfjob für Repositorys auszuführen. Dies gilt auch, wenn Sie eine benutzerdefinierte Aufbewahrungsrichtlinie für einen replizierten Agenten einrichten möchten. Durch die Ausführung dieses Jobs können vorab Inkonsistenzen in replizierten Wiederherstellungspunkten ermittelt werden, sodass es möglich ist, diese durch fehlerfreie Wiederherstellungspunkte zu ersetzen.

  ⚠ | **VORSICHT: Die Ausführung des Integritätsprüfjobs kann abhängig vom Datenvolumen im Repository und vom zugrunde liegenden Speichersystem erhebliche Zeit in Anspruch nehmen. Während der Jobausführung können keine anderen Transaktionen im jeweiligen Repository durchgeführt werden, z. B. Übertragungen (Snapshot- und Basisimage-Sicherungen sowie Replikationen), nächtliche Jobs usw.**

- Benutzer eines 5.4-Betarelease müssen alle Cores und Agenten auf Release 5.4.1.77 oder höher aktualisieren und sollten ein Upgrade auf Version 5.4.2 durchführen. Eine Interoperabilität von Betareleases und Produktionsreleases wird nicht unterstützt.

- Wenn Sie diese Version nicht installieren möchten und AppAssure Release 5.3.6 verwenden, empfiehlt Dell Software, ein Upgrade auf AppAssure 5.3.7 durchzuführen, um von den neuesten Programmkorrekturen profitieren zu können. Weitere Informationen zu AppAssure 5.3.7 finden Sie in den AppAssure 5.3.7-Releaseinformationen.

Bewährte Verfahren

Bei einem Upgrade der Version von AppAssure 5 auf den Maschinen sollten die folgenden bewährten Verfahren unbedingt beachtet werden:

- Führen Sie das Upgrade des Core immer vor dem Upgrade der Agenten durch.

- Auf der Core-Maschine kann eine AppAssure-Version ausgeführt werden, die identisch oder neuer ist als die auf den Agent-Maschinen installiert Version.

- Auf den Agent-Maschinen darf keine Version von AppAssure ausgeführt werden, die neuer ist als die im Core installierte Version. Dies gilt für die ersten drei Ziffern in der Releasebezeichnung (z. B. 5.3.7 oder 5.4.2).

ⓘ | **HINWEIS:** Innerhalb eines Release dürfen unterschiedliche Buildnummern verwendet werden. Bei einer Massenimplementierung oder einer automatischen Aktualisierung kann es beispielsweise zu geringfügigen Abweichungen zwischen Agenten bzw. zwischen einem Agenten und dem Core kommen.

- Beim Upgrade von Komponenten sollte zuerst der Core und dann die Agenten aktualisiert werden.

- Führen Sie immer zuerst ein Upgrade des Ziel-Core durch, wenn die Replikationsfunktion verwendet wird, dann das Upgrade des Quell-Core und zuletzt das Upgrade der Agenten.

  △ | VORSICHT: Um Konflikte mit der automatischen Aktualisierung zu vermeiden, bei der das Upgrade von Maschinen in der falschen Reihenfolge durchgeführt werden kann, empfiehlt Dell, dass die Administratoren Upgrades für Benutzer, die die Replikationsfunktion verwenden, in der oben angegebenen Reihenfolge manuell installieren.

- Auf dem Quell-Core darf keine Version von AppAssure ausgeführt werden, die neuer ist als die Version des Ziel-Core. Entsprechende Einzelheiten finden Sie in der Kompatibilitätsmatrix in der folgenden Tabelle 9.

Kompatibilität

Anhand der folgenden Kompatibilitätstabelle können Sie feststellen, welche Agent- und Core-Versionen von AppAssure 5 kompatibel sind.

Tabelle 13. Kompatibilität zwischen AppAssure 5 Agenten und Cores

Agent	5.2x-Core	5.3x-Core	5.4x-Core
5.2x-Agent	Unterstützt	Unterstützt	Nicht unterstützt
5.3x-Agent	Nicht unterstützt	Unterstützt	Unterstützt
5.4x-Agent	Nicht unterstützt	Nicht unterstützt	Unterstützt

Die folgende enthält Angaben zur Kompatibilität bei der Replikation zwischen Quell-Cores und Ziel-Cores.

Tabelle 14. Kompatibilität zwischen AppAssure 5 Quell- und Ziel-Cores

Quell-Core	5.2x-Ziel	5.3x-Ziel	5.4x-Ziel
5.2x-Quelle	Unterstützt	Unterstützt	Nicht unterstützt
5.3x-Quelle	Nicht unterstützt	Unterstützt	Unterstützt
5.4x-Quelle	Nicht unterstützt	Nicht unterstützt	Unterstützt

Produktlizenzierung

So aktualisieren Sie den Testlizenzschlüssel

Wenn Sie sich für eine Testversion von AppAssure 5 registrieren, erhalten Sie ein Testkonto. Wenn Sie die AppAssure 5 Core-Software vom Dell AppAssure-Lizenzportal herunterladen, wird automatisch ein Testlizenzschlüssel generiert. Dieser Lizenzschlüssel wird im Installationsprogramm für die AppAssure 5 Core-Software gespeichert, damit Sie die Software installieren können. Um die Lizenz zu aktualisieren, müssen Sie sich an Ihren Dell Software-Vertriebsbeauftragten wenden oder eine E-Mail an upgrade@apppassure.com senden. Nachdem Sie die AppAssure-Lizenz aktualisiert oder gekauft haben, erhalten Sie eine E-Mail mit dem neuen Lizenzschlüssel. Sie müssen diesen Lizenzschlüssel in der Core Console eingeben.

So laden Sie die AppAssure 5-Software herunter und installieren Sie die Software:

1 Registrieren Sie sich im Dell AppAssure-Lizenzportal unter http://license.appassure.com, um ein Konto zu erhalten. Sie müssen sich mit der E-Mail-Adresse registrieren, die Ihrem Dell Software-Vertriebsbeauftragten bekannt ist.

2 Melden Sie sich beim Lizenzportal an, nachdem die Kontoregistrierung durchgeführt wurde, und klicken Sie dann im linken Navigationsbereich auf **Downloads**.

3 Klicken Sie auf der Seite „Downloads" auf die Schaltfläche **Download** neben Core Installer bzw. Core Web Installer, um die Core-Software herunterzuladen und zu installieren.

ⓘ | HINWEIS: Mit der Option „Core Installer" wird die ausführbare Datei in einer Aufgabe heruntergeladen. Mit „Core Web Installer" wird dagegen ein Download der aktuellsten Version des AppAssure 5 Core Installers direkt aus dem Internet gestreamt. Dieser Vorgang kann nach Bedarf angehalten und fortgesetzt werden. Es wird automatisch ein Lizenzschlüssel generiert und bereitgestellt, damit Sie den Core verwenden können. Der Lizenzschlüssel wird auch in der Bestätigungs-E-Mail angegeben, die Sie nach Auswahl der Downloadoption erhalten.

4 Klicken Sie in den nachfolgend angezeigten Dialogfeldern auf **Ausführen**, um die Software zu installieren.

5 Klicken Sie auf der Seite „Downloads" neben der Agent Installer-Version für Windows oder Linux, die Sie herunterladen möchten, auf die Schaltfläche **Download**, um die Agent-Software herunterzuladen und zu installieren.

6 Klicken Sie in den nachfolgend angezeigten Dialogfeldern auf **Ausführen**, um die Software zu installieren.

7 Rufen Sie die AppAssure 5 Core Console auf, nachdem Sie die Software installiert haben, um die Testlizenz auf die aktualisierte oder gekaufte Lizenz zu aktualisieren.

8 Navigieren Sie zur Registerkarte **Konfiguration** und klicken Sie auf **Lizenzierung**.

9 Klicken Sie im Bereich „Lizenzdetails" auf **Lizenz ändern**.

10 Führen Sie im Dialogfeld „Lizenz ändern" die folgenden Schritte aus, um eine Lizenzdatei hochzuladen:

   • Wählen Sie **Lizenzdatei hochladen** aus und klicken Sie auf **Durchsuchen**.

   • Suchen und markieren Sie im Dialogfeld „Datei hochladen" die Lizenzdatei und klicken Sie auf **Öffnen**.

11 Führen Sie im Dialogfeld „Lizenz ändern" die folgenden Schritte aus, um einen Lizenzschlüssel einzugeben:

   • Wählen Sie **Lizenzschlüssel eingeben** aus.

   • Geben Sie im Textfeld für den Lizenzschlüssel den Lizenzschlüssel ein und klicken Sie auf **Weiter**.

12 Klicken Sie unter „Lizenzserver" auf **Jetzt Kontakt aufnehmen**. Nachdem die Lizenz im Lizenzserver registriert wurde, werden alle zugehörigen Agenten automatisch mit der neuen Lizenz aktualisiert.

Einführung in AppAssure 5.4.2

Sie müssen sich im Dell AppAssure-Lizenzportal registrieren, um die AppAssure 5 Core- und Agent-Software herunterzuladen. Nachdem einer erfolgreichen Registrierung können Sie einen Core oder einen Agenten herunterladen und hinzufügen. Der Lizenzschlüssel wird beim Herunterladen des Core automatisch generiert. Sie müssen den Lizenzschlüssel erfassen und eingeben, um den Core herunterzuladen, zu verwalten und zu konfigurieren. Weitere Details finden Sie im Kapitel 3 des Benutzerhandbuchs unter Einführung in das Lizenzportal.

Weitere Ressourcen

Die folgenden zusätzlichen Informationsquellen sind verfügbar:

   • Technische Dokumentation

   • Demo-Videos

   • Kurzinformationen zu Technologien

   • Live-Webinars

   • Handbücher

Globalisierung

Dieser Abschnitt enthält Informationen zu Installation und Betrieb dieses Produkts in anderen Sprachkonfigurationen als Englisch, die beispielsweise von Kunden außerhalb von Nordamerika benötigt werden. Dieser Abschnitt ersetzt nicht die Unterlagen zu unterstützten Plattformen und Konfigurationen an anderen Stellen in der Produktdokumentation.

Dieses Release ist Unicode-fähig und unterstützt alle Zeichensätze. In diesem Release müssen alle Produktkomponenten für die Verwendung identischer oder kompatibler Zeichencodierungen konfiguriert und für die Verwendung derselben Länder- und Regionsoptionen installiert werden. Dieses Release kann in den folgenden Regionen eingesetzt werden: Nordamerika, Westeuropa und Lateinamerika, Mittel- und Osteuropa, Ostasien, Japan. Es unterstützt bidirektionale Schreibweisen (Arabisch und Hebräisch). Das Release unterstützt Complex Script (Zentralasien – Indien, Thailand).

Das Release ist in die folgenden Sprachen lokalisiert: Chinesisch (vereinfacht), Französisch, Koreanisch, Deutsch, Japanisch, Portugiesisch (Brasilien), Spanisch.

Für dieses Release gelten die folgende bekannten Eigenschaften oder Beschränkungen: Protokolle und KB-Artikel sind nur in Englisch verfügbar.

Informationen zu Dell

Dell berücksichtigt die Wünsche seiner Kunden und liefert auf der ganzen Welt innovative Technologien, Geschäftslösungen und Dienstleistungen, die anerkannt und geschätzt werden. Weitere Informationen finden Sie unter www.software.dell.com.

Kontakt zu Dell

Technischer Support: Online-Support
Produktfragen und Vertrieb: 0800 800-78378
E-Mail: info@software.dell.com

Technische Supportressourcen

Der technische Support steht Kunden, die Dell-Software mit einem gültigen Wartungsvertrag gekauft haben, und Kunden zur Verfügung, die über eine Testversion verfügen. Das Support Portal ist unter https://support.software.dell.com/appassure/ erreichbar.

Das Support Portal stellt Selbsthilfetools bereit, mit denen Sie Probleme schnell und eigenständig lösen können – 24 Stunden am Tag, 365 Tage im Jahr. Darüber hinaus ermöglicht das Portal über ein Online-Serviceanforderungssystem auch direkten Zugang zu unseren Produktsupporttechnikern.

Das Portal bietet folgende Möglichkeiten:

- Erstellen, Aktualisieren und Verwalten von Serviceanforderungen (Supportfälle)
- Anzeigen von Knowledge Base-Artikeln
- Erhalten von Produktbenachrichtigungen
- Herunterladen von Software. Testsoftware finden Sie unter Testdownloads.
- Anzeigen von Videos zur Vorgehensweise
- Teilnahme an Communitydiskussionen
- Chatten mit einem Supporttechniker

Third-party contributions

This product contains the third-party components listed below. For third-party license information, go to http://software.dell.com/legal/third-party-licenses.aspx. Source code for components marked with an asterisk (*) is available at http://opensource.dell.com.

Third-Party Component	Notes	License
AlphaVSS 1.2.4000	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
ANTLR 3.3	Copyright (c) 2010 Terence Parr A copy of this license can be found below at ANTLR 3 License and at http://software.dell.com/legal/third-party-licenses.aspx.	BSD ANTLR 3
ANTLR 4.0.2	Copyright (c) 2012 Terence Parr and Sam Harwell A copy of this license can be found below at ANTLR 4 License and at http://software.dell.com/legal/third-party-licenses.aspx.	BSD ANTLR 4

Third-Party Component	Notes	License
AWS SDK for .NET 1.5.50	A copy of this license can be found below at Apache 2.0.	Apache 2.0
C5 1.1.1	Copyright (c) 2003-2008 Niels Kokholm and Peter Sestoft. A copy of this license can be found below at C5 1.1.1.	C5 1.1.1
Castle Windsor 2.5.1	A copy of this license can be found below at Apache 2.0.	Apache 2.0
DataGridViewImageAnimator 1.0	A copy of this license can be found below at Creative Commons Attribution-ShareAlike Unported 3.0. See also http://creativecommons.org/licenses/by-sa/3.0/legalcode.	Creative Commons Attribution-ShareAlike Unported 3.0
DiscUtils 0.10.0	Copyright (c) 2008 Kenneth Bell A copy of this license can be found below at DiscUtils Kenneth Bell N/A.	DiscUtils Kenneth Bell N/A
Emit Mapper 1.0.0.0	A copy of this license can be found below at LGPL (GNU Lesser General Public License) 2.1.	LGPL (GNU Lesser General Public License) 2.1
Integrated Performance Primitives 6.1.2	A copy of this license can be found below at Intel Software license May 2012 and at http://software.dell.com/legal/third-party-licenses.aspx.	Intel Software license May 2012
Integrated Performance Primitives 7.0.6	A copy of this license can be found below at Intel Software license May 2012 and at http://software.dell.com/legal/third-party-licenses.aspx.	Intel Software license May 2012
ISOLINUX 4.05 20120131*	A copy of this license can be found below at GPL (GNU General Public License) 2.0 and at http://software.dell.com/legal/third-party-licenses.aspx. The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	GPL (GNU General Public License) 2.0
jqGrid 4.4.1	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
jqrowl 1.2.6	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
JQuery 1.8.2	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
jQuery knob 1.2.0	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
JQuery UI 1.9.1	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Json.NET 4.5	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
jsTree 1.0-rc3	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A

Third-Party Component	Notes	License
libext2fs 1.42.6	A copy of this license can be found below at LGPL (GNU Lesser General Public License) 2.1 and at http://software.dell.com/legal/third-party-licenses.aspx. The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	LGPL (GNU Lesser General Public License) 2.1
libssh2 1.4.3	Portions Copyright 2002-2010 Atsuhiko Yamanaka, JCraft,Inc. A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	BSD-style N/A
Log4Net 1.2.10	A copy of this license can be found below at Apache 2.0.	Apache 2.0
MarkdownSharp 1.13	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
memtest86+ 4.20*	A copy of this license can be found below at GPL (GNU General Public License) 2.0 and at http://software.dell.com/legal/third-party-licenses.aspx. The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	GPL (GNU General Public License) 2.0
Microsoft Reactive Extensions for .NET 2.1	A copy of this license can be found below at Apache 2.0.	Apache 2.0
Microsoft Windows Azure Storage 2.0.6	A copy of this license can be found below at Apache 2.0.	Apache 2.0
MongoDB 2.0.6	The MongoDB Database Server and Tools are licensed by the Affero GPL v.3.0 license, which can be found at http://software.dell.com/legal/third-party-licenses.aspx. The mongodb.org supported drivers are licensed by Apache v.2.0, which can be found below at Apache 2.0 and at http://software.dell.com/legal/third-party-licenses.aspx.	GNU Affero GPL 3.0 Apache 2.0
MongoDB 10gen driver 1.4.2	A copy of this license can be found below at Apache 2.0.	Apache 2.0

Third-Party Component	Notes	License
Mono 3.07*	A copy of this license can be found below at LGPL (GNU Lesser General Public License) 2.1 and at http://software.dell.com/legal/third-party-licenses.aspx.	LGPL (GNU Lesser General Public License) 2.1
	The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	
	Subcomponents are licensed by the particular license that comes with each subcomponent.	
	The Mono code under the mcs/ directory is licensed under various different licenses:	
	• GNU GPL: details available in the file LICENSE.GPL	
	• GNU LGPL: details available in the file LICENSE.LGPL	
	• MIT X11: text available in the file MIT.X11	
	• MPL: text available in the file LICENSE.MPL	
	For your convenience copies of the GNU GPL and GNU LGPL are located in the file COPYING and COPYING.LIB.	
	Class Libraries:	
	All of the core classes licensed under the terms of the MIT X11 license.	
	Third party libraries that we distribute for convenience reasons are distributed under their own terms (all of them allow development of proprietary applications with them).	
	Third party libraries include: ByteFX.Data, ICSharpCode.SharpZipLib, Npgsql, MicrosoftAjaxLibrary.	
	The Microsoft.JScript assembly is covered by the MIT X11 and the Mozilla MPL license as it contains ported pieces of code from Rhino, the Mozilla JavaScript implementations.	
	• Mono C# compiler: Dual licensed MIT X11 and GNU GPL.	
	• Mono Basic compiler: GNU GPL.	
	• Various tools in the 'tools' directory: GNU GPL.	
Mono class libraries 3.0.7	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Mono eglib 3.0.7	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Mono Garbage Collector 3.0.7	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Mono Support 3.0.7	A copy of this license can be found below at LGPL (GNU Lesser General Public License) 2.1 and at http://software.dell.com/legal/third-party-licenses.aspx.	LGPL (GNU Lesser General Public License) 2.1
	The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	
Mono tools 3.0.7	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A

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Moq 4.0.10818.0	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	BSD Moq 4.0.10818.0
msc/jay 3.0.7	A copy of this license can be found below at BSD-style license N/A and at http://software.dell.com/legal/third-party-licenses.aspx.	BSD-style license N/A
NDesk.Options 0.2.1	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Newtonsoft.Json.dll 4.5.9	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Newtonsoft.Json.dll 5.0.6	A copy of this license can be found below at MIT Json.NET N/A and at http://software.dell.com/legal/third-party-licenses.aspx. The full text of the license may be found on our website at http://software.dell.com/legal/license-agreements.aspx.	MIT Json.NET N/A
NLog 2.0	Portions copyright 2011 Jaroslaw Kowalski. A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	BSD NLog 2.0
OpenStack.NET 1.2.0.1	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
PowerCollections 2007*	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx and at http://software.dell.com/legal/license-agreements.aspx.	Eclipse Public License 1.0
Prism 4.0	Contains software or other content adapted from Microsoft patterns & practices ObjectBuilder, © 2006 Microsoft Corporation. All rights reserved. A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	Prism 4.0
Protobuf-net 2.0.0.627	A copy of this license can be found below at Apache 2.0.	Apache 2.0
Quartz.NET 2.1.2	A copy of this license can be found below at Apache 2.0.	Apache 2.0
Raphael--JavaScript Library 2.1.1	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
RazorGenerator 2.1	A copy of this license can be found below at Apache 2.0.	Apache 2.0
Resize Floating Popup Control Revision 3	A copy of this license can be found below at Code Project Open License (CPOL) and at http://software.dell.com/legal/third-party-licenses.aspx.	Code Project Open License (CPOL) 1.02

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SimpleRestServices 1.2.0.0	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	MIT N/A
Sparsehash 1.11	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	BSD CodePlex
SSH.Net 2013.4.7	A copy of this license can be found at http://software.dell.com/legal/third-party-licenses.aspx.	BSD CodePlex
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